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Next stop, Oxford Station: How Kier uses AI to bid and build

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Kier picked for £65m Oxford station project

Levelling up our bid with AI

Baseline schedule created by the bid team

AI trained on >500,000 past project schedules

A highly accurate forecast

A list of key delivery risks

Schedule integrity improvements

The results of processing the baseline schedule with the AI

55

Opportunities to reduce activity durations

37

Threat groups identified

229

Days shaved off activity durations when risks are mitigated

21

Number of milestones assessed

P80

Revised likelihood of Kier hitting milestones when risks are mitigated

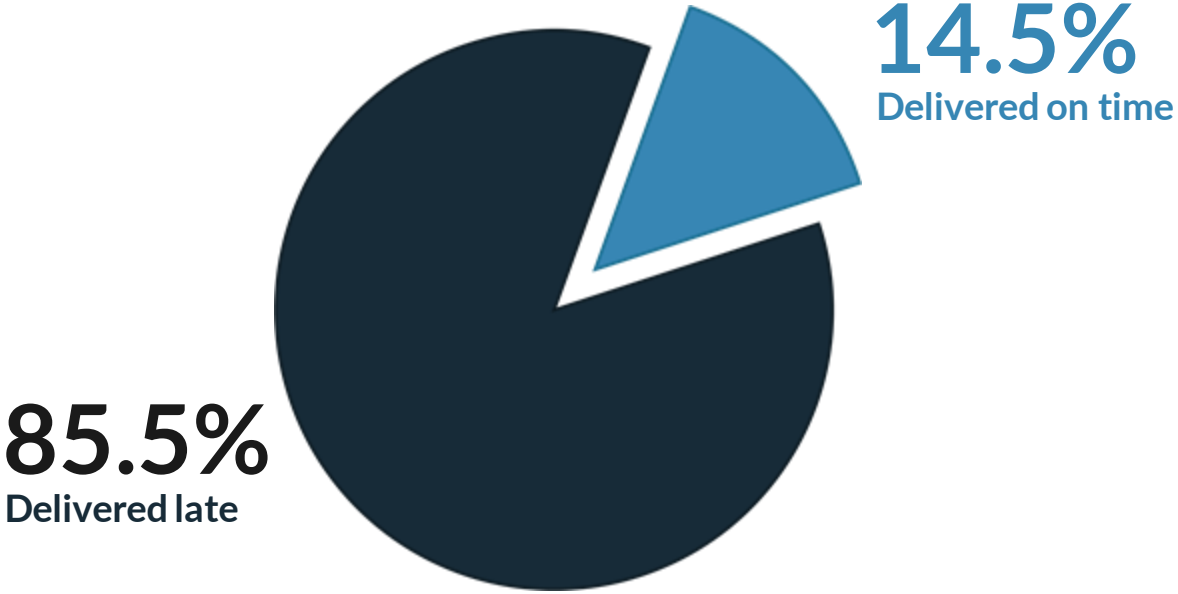
Benefits for Kier

- Rapidly develop realistic schedule with high likelihood of hitting milestones
- Stand out from competing tenders
- Hit the ground running when bid is successful
- Quantify business case from the get-go and predict margins

Benefits for Network Rail

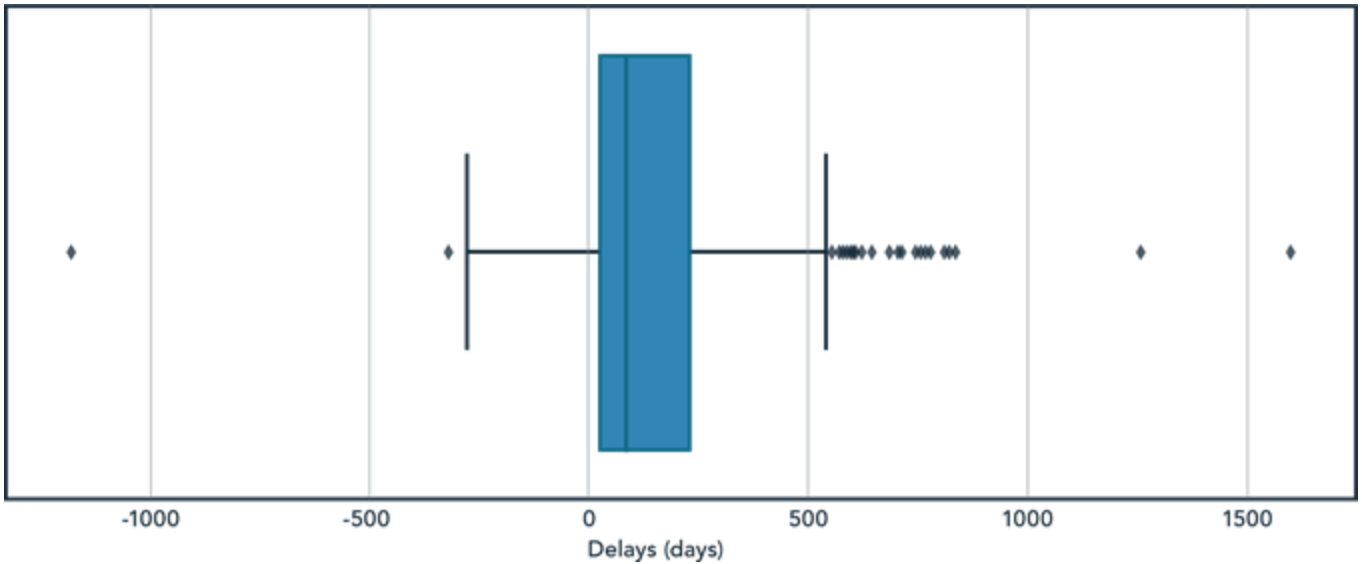
- Third party assurance gives peace-of-mind on reality of schedule
- Clear and demonstrable reason for selecting contractor
- Contractor ready to transition to delivery
- Positive working relationship from the start

Only one out of every seven large-scale projects finishes on time



*Based on analysis of large-scale projects (worth >£100m) executed between 2005 and 2021; source: nPlan

The median large-scale project is delayed by 87 days



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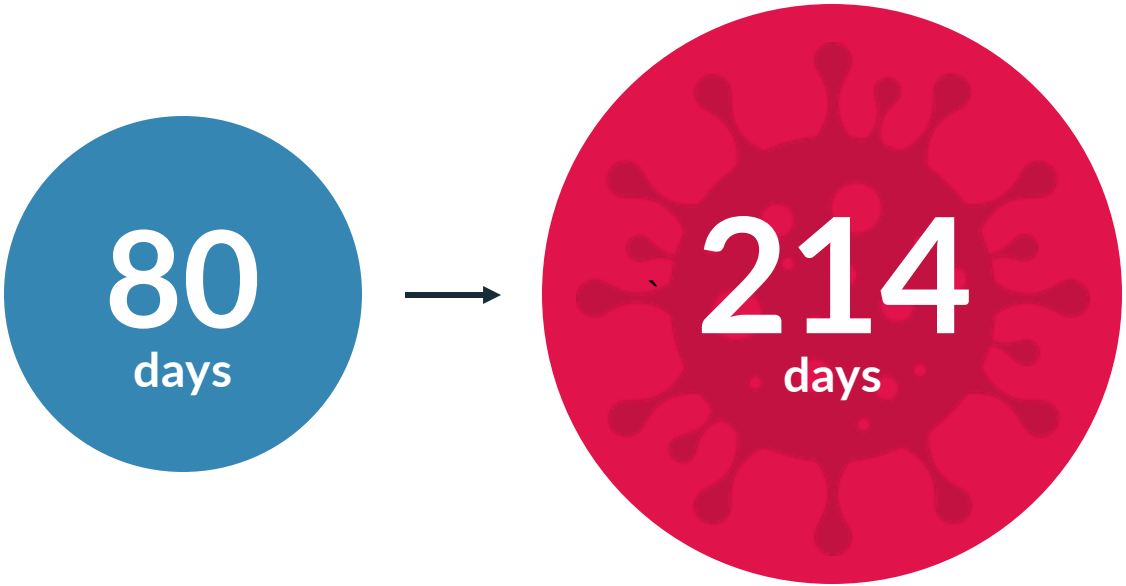
The median large-scale project delay increased by 167% during the pandemic



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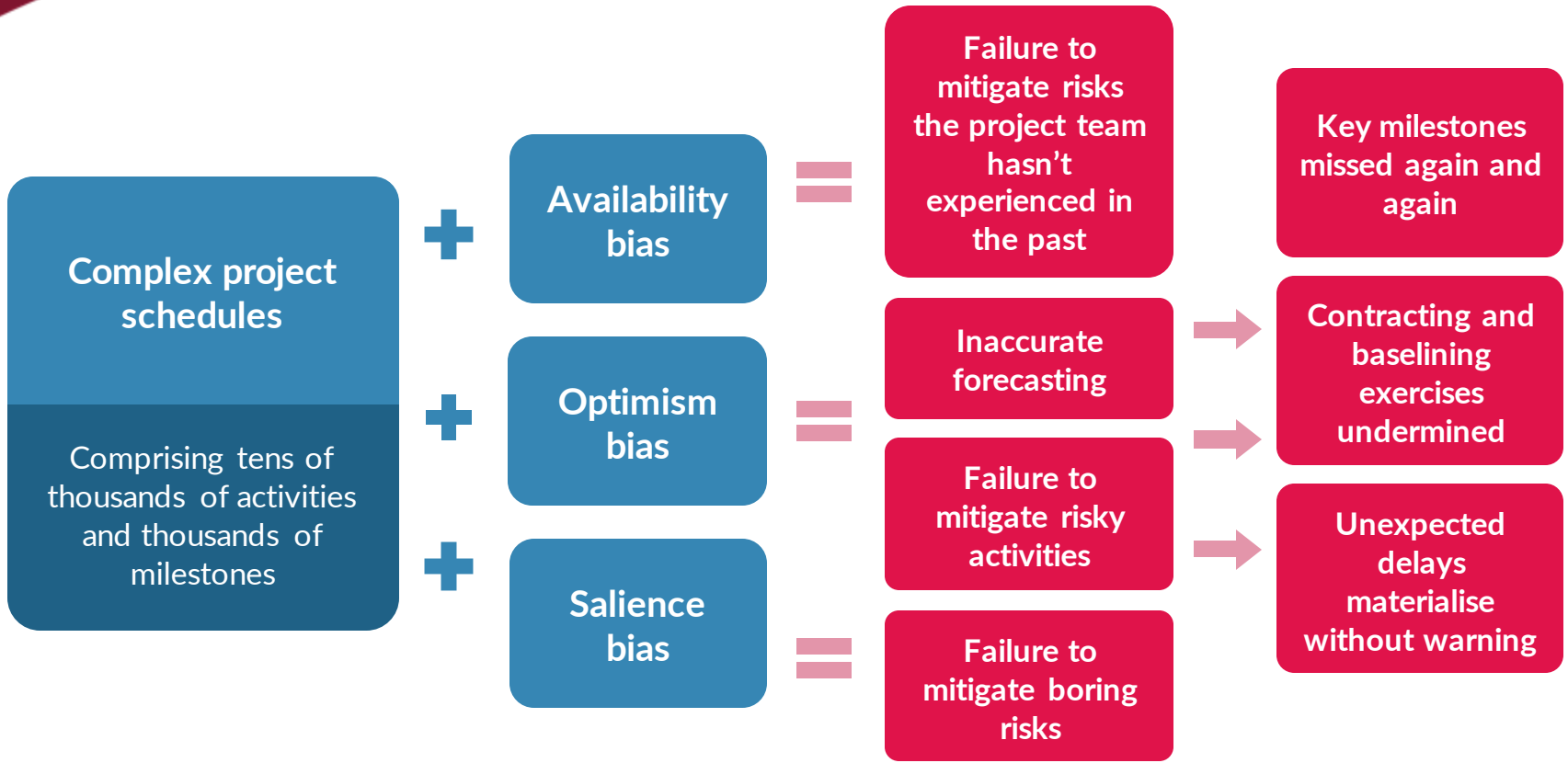
Why do so many capital projects FAIL to finish on time?



nPlan

Founded in the **UK** in 2017

Hypothesis: we can use AI to identify risks and forecast projects

Secured **$22M** in funding from backers

Customers include:

COSTAIN, Shell, HS2, KIER, Network Rail, Google, SKANSKA

Team of **70** - and growing

Has amassed over **550,000** Construction schedules

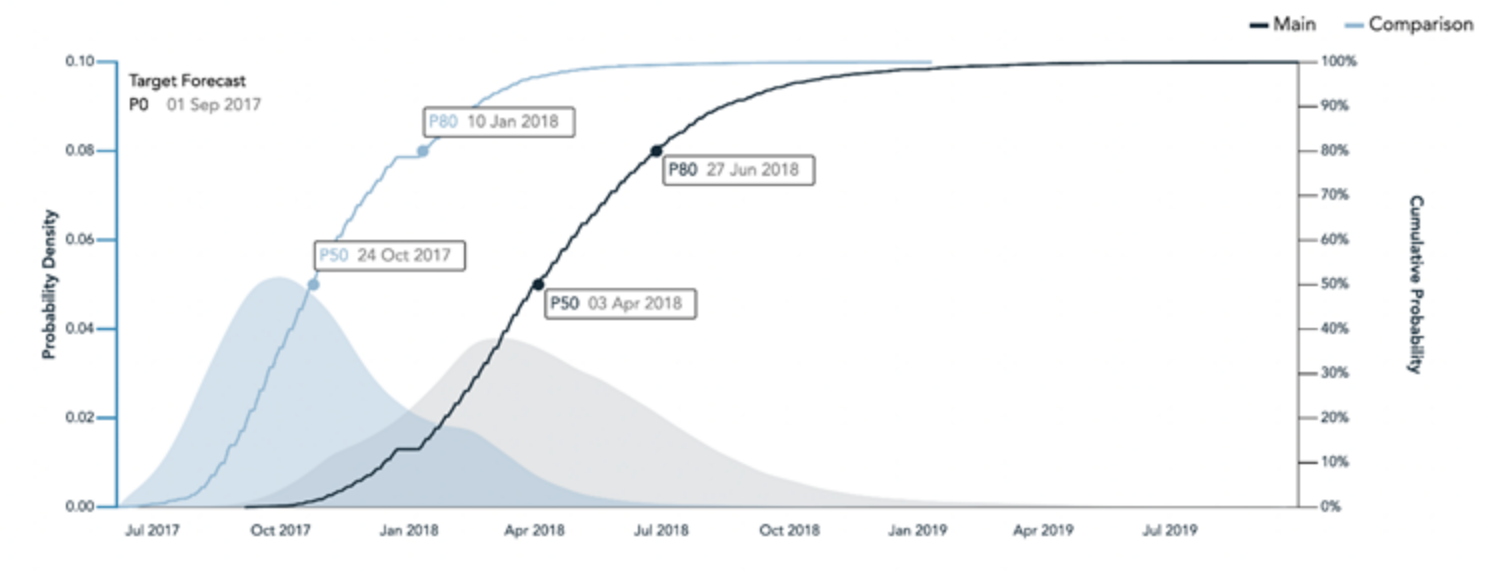
One AI, multiple valuable applications for contractors and owner-operators

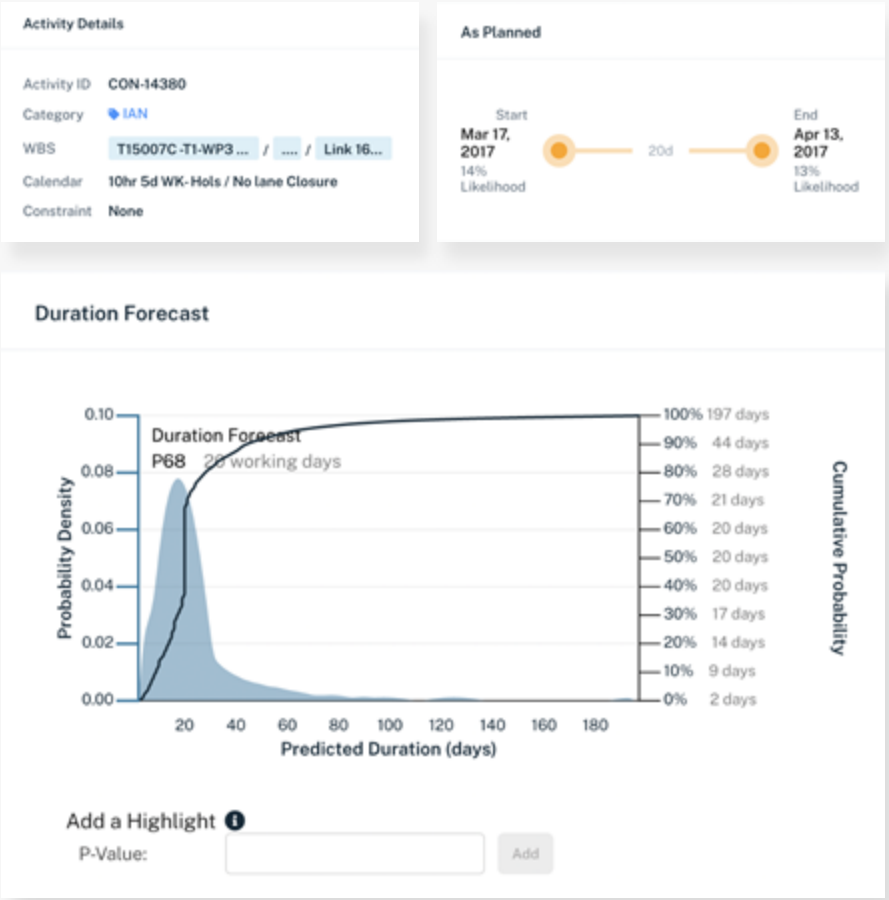
	Pre-sanction / bid phase	Execution
Portfolio of projects	Business Case Assurance	Portfolio Monitoring
Individual projects	Bid Evaluation	Project Delivery

01

Project Delivery Value Proposition

Unbiased forecast outputs





02

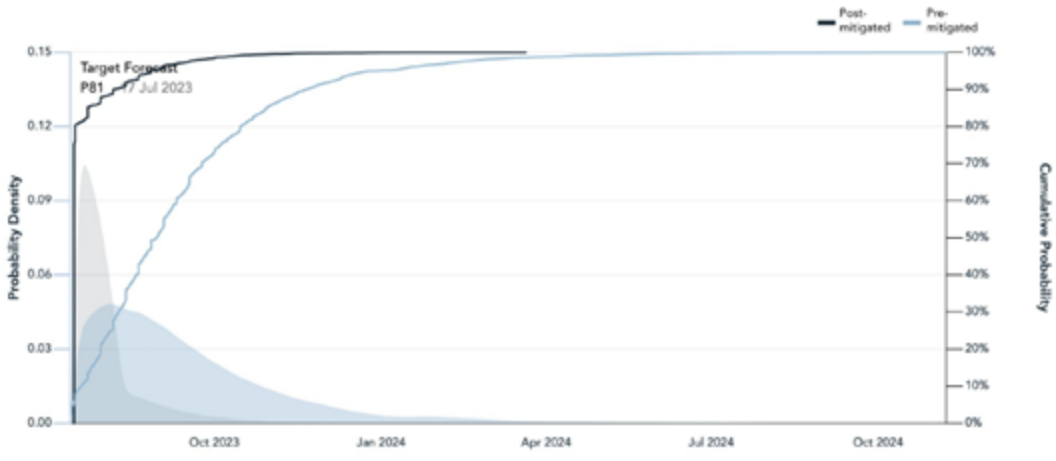
Project Delivery Value Proposition

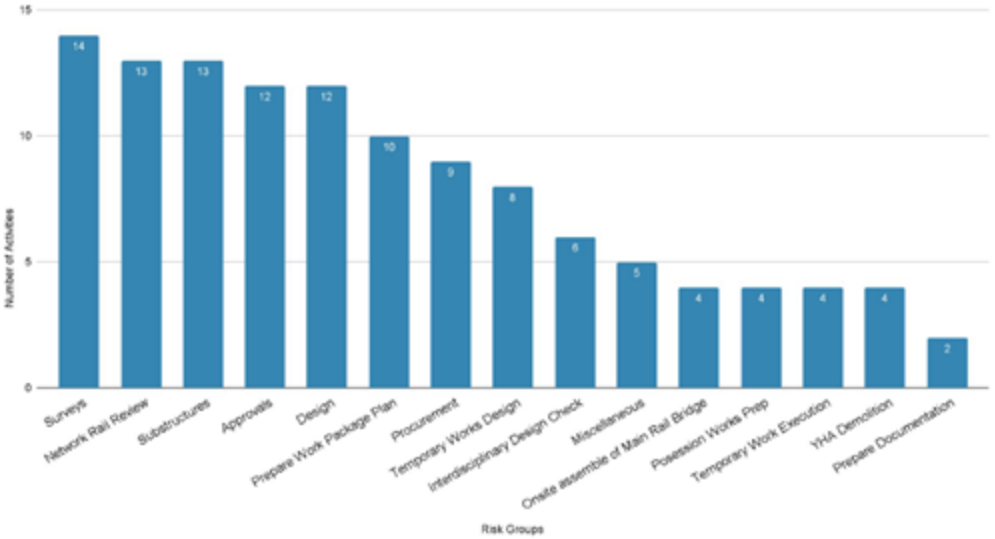
Risk identification and quantification

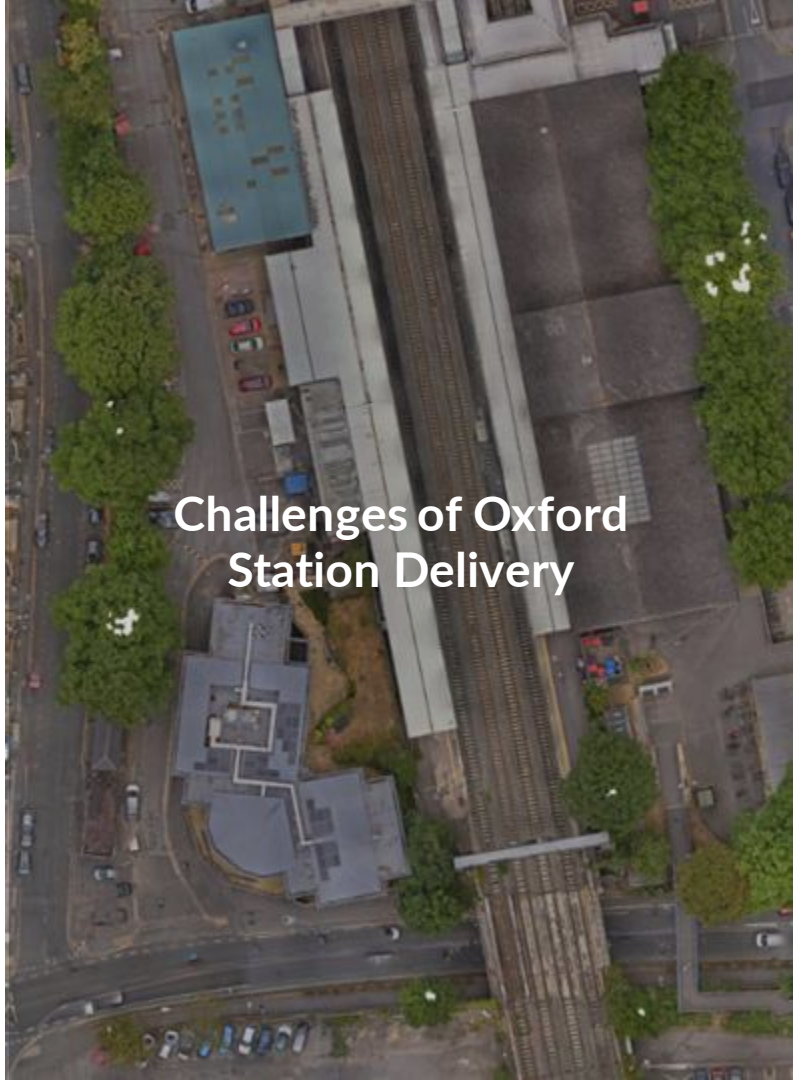
- Quantify known risks
- Identify hidden risks
- Focus attention on the areas of the project that really matter
- Generate better options for delay mitigation

Value of using nPlan for delivery

- Efficient agreement of contract baseline schedule
- Enhancing trust and collaboration between Network Rail and Kier teams
- Additional detail of QSRA outputs – volatility, surprise risk and risk share by group
- Supported effective mobilisation and activity prioritisation

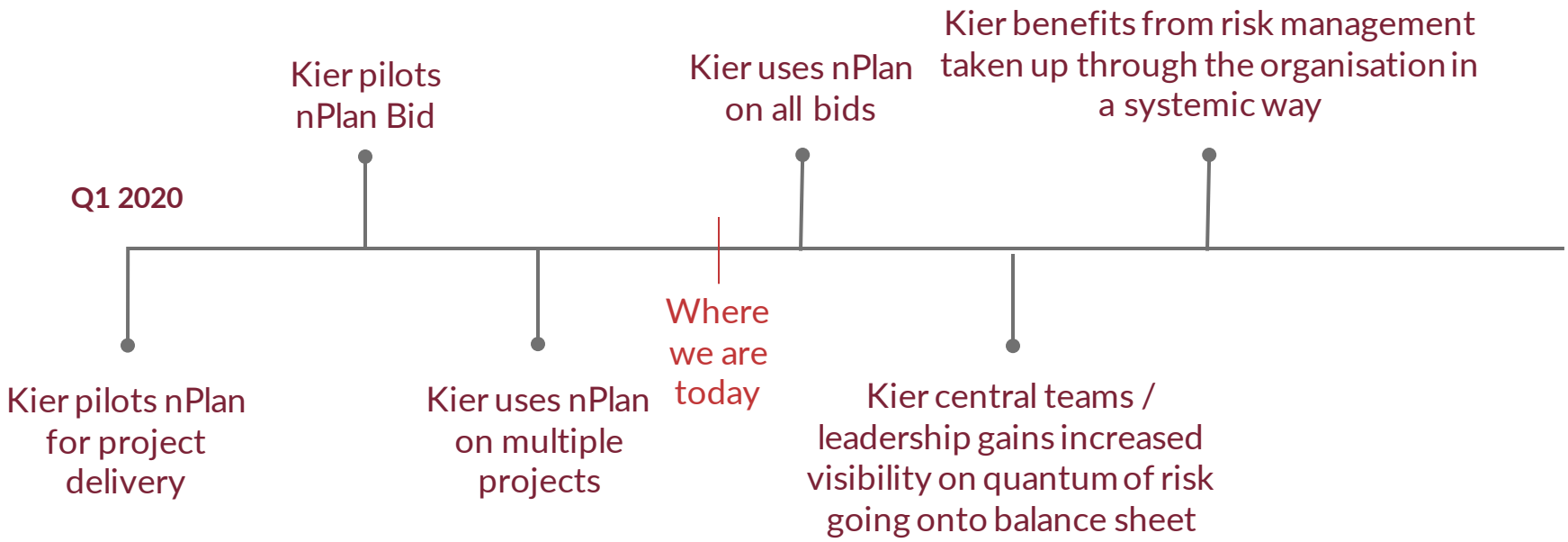






Challenges of Oxford Station Delivery

nPlan and Kier: the future



THANK YOU

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